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Stated Meeting, April 1.

Present, twenty-seven members.

Mr. DU PONCEAU, President, in the Chair.

Letters were read:—

From the Geological Society of London, dated 2d Dec. 1841, and the Society of Arts of London, dated 23d Dec. 1841, acknowledging the receipt of No. 18 of the Society's Proceedings:—

From William Vaughan, Esq., of London, dated 2d March, 1842, in acknowledgment of the resolutions of the Society, passed in honour of his brother, the late Librarian:—

From the Editor of "L'Institut," dated Paris, 17th Jan. 1842, requesting that the Proceedings of the Society may be sent to him:—and

From Mr. Jacob Snider, Jr., in relation to the books recently given by him to the Society, and tendering a further donation of twenty-one volumes, provided the Society does not possess them already.

On motion of Prof. A. D. Bache, the Society directed a copy of the Proceedings to be regularly furnished to the Editor of "L'Institut."

The following donations were announced:—

FOR THE LIBRARY.

The History of the Herculean Straits; now called the Straits of Gibraltar. By Lieut. Col. Thomas James. 2 Vols. 4to. London, 1771.—*From Mr. Jacob Snider, Jr.*

Lectures on History and General Policy. By Joseph Priestley, LL.D. 4to. Birmingham, 1788.—*From the same.*

Travels during the Years 1787–88–89 in France. By Arthur Young, F.R.S. 4to. Bury St. Edmunds, 1792.—*From the same.*

Sheridan's Dictionary of the English Language. Revised and Corrected by John Andrews, D.D. 8vo. Philadelphia, 1789.—*From the same.*

- An Historical Disquisition concerning the Knowledge which the Ancients had of India. By William Robertson, D.D. 8vo. Philadelphia, 1792.—*From the same.*
- Tracts by Joseph Price, LL.D. 3 Vols. 8vo. London, 1783.—*From the same.*
- Serious Considerations on the Political Conduct of Lord North. By Nathaniel Buckingham, Esq. (Dr. Price.) 8vo. London, 1783.—*From the same.*
- A Journey through Spain in the Years 1786–87. By Joseph Townsend. 3 Vols. 8vo. London, 1791.—*From the same.*
- A New Portuguese Grammar. By Anthony Vieyra. 8vo. London, 1794.—*From the same.*
- A Collection of French Comedies and Operas. 3 Vols. 8vo. Paris. Avignon.—*From the same.*
- A Discourse of Coin and Coinage. By Rice Vaughan, Esq. 12mo. London, 1675.—*From the same.*
- A Collection of Pamphlets.—*From the same.*
- The American Medical Library and Intelligencer. By Robley Dunglison, M.D. Vol. I. No. 8. 8vo. Philadelphia, Feb. 1842.—*From the Editor.*
- Catalogue of the Library in Red Cross Street, Cripplegate. 2 Vols. 8vo. London, 1841. *From Mr. Petty Vaughan, through Mr. J. Snider, Jr.*
- Proceedings of the Royal Astronomical Society of London. Vol. V. No. 18. 8vo. London, 1841.—*From the Society.*
- Revista de España y del Estrangero. Director y Redactor Principal, D. Fermin Gonzalo Moron. Vol. I. No. 1. 8vo. Madrid, 1842.—*From the Editor.*
- Boletin Enciclopedico de la Sociedad Economica de Valencia. Vol. I. No. 24. 8vo. Valencia, 1841.—*From the Society.*
- Journal Asiatique. Troisième Série. Vol. XII. Nos. 67 & 68. 8vo. Paris, Sept. Oct. and Nov. 1841.—*From the Asiatic Society of Paris.*
- Annals des Mines. Troisième Série. Vol. XX. No. 4. 8vo. Paris, 1841.—*From the Council of Mines.*
- Chart of Cape Cod Harbour and the Adjacent Coast of Provincetown and Truro. Reduced from the Original of Major J. D. Graham, U. S. Topog. Eng., by J. W. Lewis, Civil Engineer. 1841.—*From Major Graham.*
- Chart of Cape Cod Harbour and Adjacent Coast. Reduced from the Survey of Major J. D. Graham. Small size.—*From the same.*

Dr. Bache announced the death of Condry Raguet, Esq. a member of the Society, which took place on the 22d of March, at the age of 58; and on motion, Mr. C. C. Biddle was appointed to prepare an obituary notice of the deceased.

Prof. Kendall made an oral communication in relation to Encke's comet.

He stated that he had succeeded in finding the comet with the nine feet Fraunhofer equatorial of the High School Observatory, on the evenings of the 27th, 28th and 31st of March, and 1st of April; being the only clear evenings since the arrival of Prof. Encke's Ephemeris. The place of the comet in the Ephemeris, according to the observations made at the Observatory of the High School, is correct within 20'' of space. On the 27th, it appeared at first at 7, P. M., precisely in the centre of the field of view; the equatorial having been at sunset adjusted by the Ephemeris, and subjected to the motion of the clockwork. On all the evenings except the 31st, its position and distance from a known star or stars in the field, were measured by the Fraunhofer Filarmicrometer. On the 31st, this method was impracticable, and differences of right ascension and declination were observed and measured with reference to a star from Bessel's Zone Observations, preceding the comet by two minutes of time. The comet appeared as a conspicuous nebula, 32'' in diameter, condensed toward the centre, without nucleus and without tail, on the 27th and 28th; but on the 31st of March and 1st of April, it exhibited a faint tail, extending about 7' of space, in position, 55° N. E. from the declination circle, and gradually widening towards the extremity. Prof. Kendall intended, while the comet remained visible, to continue his observations, and, when carefully reduced, to communicate them to the Society. He took occasion to acknowledge the assistance of Messrs. Patterson, Walker and Dick.

Dr. Hare related some experiments, showing that the vapour of nascent steam, generated by the hydro-oxygen flame, was not productive of electricity.

He observed that, before his late voyage to Europe, he had made some experiments in order to ascertain whether any electricity was given out by the flame of the hydro-oxygen blowpipe, or by the elements of water during their conversion into steam.

The unexpected electrical results, previously ascertained respecting high steam, naturally gave importance to this inquiry, the result of

which he had no previous opportunity of communicating to the Society.

Even the flame produced by means of a very powerful hydro-oxygen blowpipe, was not found to be productive of electrical indication, when allowed to act upon a metallic mass supported upon the canopy of an extremely delicate electroscope. As it was suggested that, the flame being a conductor, the electricity evolved might retrocede by it to the metallic pipe, the experiment was modified in the following way:—

The mixture of one part of oxygen and two of hydrogen, being, as in the first instance, condensed within a mercury bottle, was made, by means of a valve cock and safety tube, to communicate, through a glass tube, with a jet pipe of platinum, a foot in length and in bore.

The apparatus being thus arranged, and the cock so adjusted as to allow the gaseous mixture to escape through the jet pipe with sufficient celerity, a flame of hydrogen was applied to the outside of this pipe about the middle. By these means, the temperature being raised so as to cause the elements of water to combine, the flame was removed; the heat being sufficiently kept up by the internal combustion. Thus that which entered at one end of the tube as gas, came out at the other as steam. Under these circumstances, a single-leaf electrometer, more susceptible than a condensing electrometer, was not indicative of any electrical excitement, either in the insulated jet tube, or in any body on which the steam was allowed to condense.

Dr. J. K. Mitchell having expressed a wish to see these experiments, they were repeated, with his assistance, with the same results.

Dr. Hare also mentioned that he had observed an ethereal liquid to subside on the addition of pure pyroxylic spirit to an aqueous solution of hypochlorous acid, obtained by passing chlorine into water in contact with bioxide of mercury.

Having separated the ether thus produced, he found it to have an agreeable and peculiar fragrance. Like oil of wine, it could not be distilled without decomposition. There was an effervescence at the temperature of 140° F.; but the boiling point rose beyond that of a boiling water-bath. When a naked flame was applied, the ether, previously colourless, acquired a yellowish wine colour, and, by the crackling evolution of vapour, indicated decomposition.

When the liquid hypochlorous acid was subjected to the process of distillation, before the addition of the spirit, an ether resulted which

floated on the solution, and which appeared to differ from that obtained as first mentioned.

Dr. Hare made these observations, and those previously communicated respecting the hyponitrite of methyl, by the aid of a small quantity of pure pyroxylic spirit, supplied to him by his friend Dr. Ure, and regretted that both ill health and the exhaustion of his stock of spirit had prevented him from making further observations and experiments, tending to decide whether the ethers obtained, as he had described, were either or both hypochlorites, or whether mercury entered into the composition of the heavier ether. This there was some reason for believing; since, when boiled to dryness at a high temperature, a reddish residuum was apparent, which being redissolved, and a small strip of copper immersed in the resulting solution, a minute deposition, apparently metallic, was observable.

Dr. Dunglison drew the attention of the Society to the subject of a monument to Mr. Vaughan, on which resolutions had been passed on the occasion of Mr. Vaughan's death; whereupon, on motion of Dr. Chapman, a Committee was appointed to carry the resolutions into effect. Committee, Dr. Chapman, Dr. Dunglison and Mr. Kane.

Mr. Kane reminded the Society of its pledge to appropriate a certain sum of money for the Magnetic Observatory; whereupon, on motion of Dr. Chapman, it was resolved that the Committee, having charge of the subject, pay over the sum of one hundred and ninety dollars, now in their hands, for the use of the Magnetic Observatory.

Stated Meeting, April 15.

Present, thirty-seven members.

Mr. DU PONCEAU, President, in the Chair.

A letter was read from the Corporation of the University of Cambridge, Mass., dated 11th April, 1842, acknowledging the receipt of Vol. VIII. Part 1, of the Society's Transactions.

A letter was also read from Isaac Elliott, Esq. addressed to Mr. Kane, enclosing an account against the Society for one